

O'Bryen, Barbara

From: Zara, Jane
Sent: Thursday, December 27, 2001 12:07 PM
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11D03

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BARB O'BRYEN
TECH. INFORMATION SPECIALIST
STIC CM1 ~~12014~~ 308-4291
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12013
12-28-01

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Set	Items	Description
S1	29	ALKALOID AND (CYTOCHROME (W) P450 (W) REDUCTASE?)
S2	13	RD (unique items)

>>>KWIC option is not available in file(s): 41, 77, 399

2/3,K/1 (Item 1 from file: 5)
 DIALOG(R)File 5:Biosis Previews(R)
 (c) 2001 BIOSIS. All rts. reserv.

12606811 BIOSIS NO.: 200000360313
Induction of cytochrome P450 enzymes in the livers of rats treated with the pyrrolizidine *alkaloid* retrorsine.
 AUTHOR: Gordon Gavin J; Coleman William B(a); Grisham Joe W
 AUTHOR ADDRESS: (a)Department of Pathology and Laboratory Medicine,
 University of North Carolina School of Medicine, Chapel Hill, NC, 27599**
 USA
 JOURNAL: Experimental and Molecular Pathology 69 (1):p17-26 August, 2000
 MEDIUM: print
 ISSN: 0014-4800
 DOCUMENT TYPE: Article
 RECORD TYPE: Abstract
 LANGUAGE: English
 SUMMARY LANGUAGE: English

Induction of cytochrome P450 enzymes in the livers of rats treated with the pyrrolizidine *alkaloid* retrorsine.

ABSTRACT: Retrorsine is a member of the pyrrolizidine *alkaloid* (PA) family of naturally occurring compounds found in a large number of plant species worldwide. The cytotoxic, mutagenic, and antimitotic effects of PAs have made...
 ...REGISTRY NUMBERS: *CYTOCHROME* *P450* *REDUCTASE*;
 DESCRIPTORS:
 CHEMICALS & BIOCHEMICALS: ...CYP reductase {*cytochrome* *P450* *reductase*}; ...
 ...pyrrolizidine *alkaloid*--...
 ...metabolism, pyrrolizidine *alkaloid*, toxicity

2/3,K/2 (Item 2 from file: 5)
 DIALOG(R)File 5:Biosis Previews(R)
 (c) 2001 BIOSIS. All rts. reserv.

11302695 BIOSIS NO.: 199800084027
Cloning and heterologous expression of NADPH-*cytochrome* *P450* *reductase* from the Papaveraceae.
 AUTHOR: Rosco Angela; Pauli Hubert H; Priesner Wiebke; Kutchan Toni M(a)
 AUTHOR ADDRESS: (a)Lab. fuer Molekulare Biologie, Univ. Muenchen,
 Karlstrasse 29, 80333 Muenchen**Germany
 JOURNAL: Archives of Biochemistry and Biophysics 348 (2):p369-377 Dec. 15, 1997

ISSN: 0003-9861
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

**Cloning and heterologous expression of NADPH-*cytochrome* *P450*
reductase from the Papaveraceae.**

ABSTRACT: *Cytochrome* *P450* *reductase* was purified to homogeneity from cell suspension cultures of the opium poppy *Papaver somniferum*, the enzyme was characterized (Km cytochrome c, 8.3 μ M; Km...

...California poppy) were then generated using the polymerase chain reaction and were used as hybridization probes to isolate full-length cDNAs. The *Papaver* and *Eschscholzia* *cytochrome* *P450* *reductases* are 63% identical at the nucleotide level and 69% identical at the amino acid level. SDS-PAGE of the purified native *P. somniferum* enzyme as well as genomic DNA gel blot analysis indicate that two *cytochrome* *P450* *reductase* isoforms are present in each species. This evidence is also supported by translation of nucleotide sequences obtained from the PCR-generated partial cDNAs and the full-length cDNAs isolated from lambda libraries. The *Papaver* and *Eschscholzia* *cytochrome* *P450* *reductases* were functionally expressed in the yeast *Saccharomyces cerevisiae* and in the insect cell culture *Spodoptera frugiperda* Sf9. Coexpression of *cytochrome* *P450* *reductase* with the C-O phenol coupling cytochrome P450 of bisbenzylisoquinoline *alkaloid* biosynthesis in *Berberis stolonifera*, berbamin synthase (CYP80A1), in insect cell culture resulted in an alteration of the product profile as compared to that obtained by...

...REGISTRY NUMBERS: NADPH-*CYTOCHROME* *P450* *REDUCTASE*

DESCRIPTORS:

CHEMICALS & BIOCHEMICALS: NADPH-*cytochrome* *P450* *reductase*--

2/3,K/3 (Item 3 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

(c) 2001 BIOSIS. All rts. reserv.

10064985 BIOSIS NO.: 199598519903

Complete reversal by thaliblastine of 490-fold adriamycin resistance in multidrug-resistant (MDR) human breast cancer cells. Evidence that multiple biochemical changes in MDR cells need not correspond to multiple functional determinants for drug resistance.

AUTHOR: Chen Guan; Waxman David J(a)

AUTHOR ADDRESS: (a)Div. Cell Molecular Biol., Dep. Biol., Boston Univ., 5
Cummington St., Boston, MA 02215**USA

JOURNAL: Journal of Pharmacology and Experimental Therapeutics 274 (3):p
1271-1277 1995

ISSN: 0022-3565

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

...ABSTRACT: as selective, potent and nontoxic modulators of drug resistance is thus an important goal for improving the success of cancer treatment. Thaliblastine (TBL), a plant *alkaloid* and P-glycoprotein (P-gp) inhibitor, is presently shown to fully reverse 490-fold resistance to Adriamycin (AdR) in a multidrug-resistant (MDR) human breast...

...REGISTRY NUMBERS: *CYTOCHROME* *P450* *REDUCTASE*

DESCRIPTORS:

CHEMICALS & BIOCHEMICALS: ...*CYTOCHROME* *P450* *REDUCTASE*

MISCELLANEOUS TERMS: ...*CYTOCHROME* *P450* *REDUCTASE*; ...

...PLANT *ALKALOID*;

2/3,K/4 (Item 4 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

(c) 2001 BIOSIS. All rts. reserv.

09769773 BIOSIS NO.: 199598224691

**Molecular cloning and heterologous expression of a cDNA encoding
berbamunine synthase, a C-O phenol-coupling cytochrome P450 from the
higher plant *Berberis stolonifera*.**

AUTHOR: Kraus Peter F X; Kutchan Toni M(a)

AUTHOR ADDRESS: (a)Lab. Mol. Biol., Univ. Muenchen, Karlstrasse 29, 80333
Munich**Germany

JOURNAL: Proceedings of the National Academy of Sciences of the United
States of America 92 (6):p2071-2075 1995

ISSN: 0027-8424

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

...ABSTRACT: This cytochrome P450-dependent enzyme is unusual in that it catalyzes the regio- and stereoselective formation of a C-O phenol couple in bisbenzylisoquinoline *alkaloid* biosynthesis without concomitant incorporation of activated oxygen into the product. Consistent with the function of an oxidase rather than a monooxygenase, an essential glycine residue...
...the equivalent position in berbaminine synthase. This oxidase was accumulated in an active form in insect cell microsomes and accepted electrons from the endogenous NADPH-*cytochrome* *P450* *reductase*. The heterologously expressed enzyme oxidatively couples either two molecules of (R)-N-methylcoclaurine to form the (R,R) dimer guatte-gaumerine or one molecule each...

2/3,K/5 (Item 5 from file: 5)

DIALOG(R)File 5: Biosis Previews(R)

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08753121 BIOSIS NO.: 199395042472

Inhibition of rat liver microsomal lipid peroxidation by boldine.

AUTHOR: Cederbaum Arthur I(a); Kukielka Ewa; Speisky Hernan

AUTHOR ADDRESS: (a)Dep. Biochemistry, Mount Sinai Sch. Med., One Gustave L.
Levy Pl., New York, N.Y. 10029**USA

JOURNAL: Biochemical Pharmacology 44 (9):p1765-1772 1992

ISSN: 0006-2952

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The *alkaloid* boldine, found in the leaves and bark of boldo, was an effective inhibitor of rat liver microsomal lipid peroxidation under a variety of conditions. The...

...produced nearly total inhibition of lipid peroxidation had no effect on microsomal mixed-function oxidase activity nor did boldine appear to direct electrons from NADPH-*cytochrome* *P450* *reductase* away from cytochrome P450. Boldine completely protected microsomal mixed-function oxidase activity against inactivation produced by lipid peroxidation. The effectiveness of boldine as an anti-oxidant under various conditions, and its low toxicity, suggest that this *alkaloid* may be an attractive agent for further evaluation as a clinically useful anti-oxidant.

2/3,K/6 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

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07209686 EMBASE No: 1998104611

Inhibition of cytochrome P450-dependent monooxygenases by an *alkaloid* fraction from *Helietta apiculata* markedly potentiates the hypnotic action of pentobarbital

Goloubkova T.D.; Heckler E.; Rates S.M.K.; Henriques J.A.P.; Henriques

A.T.

A.T. Henriques, Graduate Course Pharmaceutical Sci., School of Pharmacy,
UFRGS, Av. Ipiranga 2752, Porto Alegre, 90610-000 RS Brazil
Journal of Ethnopharmacology (J. ETHNOPHARMACOL.) (Ireland) 1998, 60/2
(141-148)
CODEN: JOETD ISSN: 0378-8741
PUBLISHER ITEM IDENTIFIER: S0378874197001396
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 20

**Inhibition of cytochrome P450-dependent monooxygenases by an *alkaloid*
fraction from *Helietta apiculata* markedly potentiate the hypnotic action of
pentobarbital**

Crude *alkaloid* fraction (CAF) isolated from the leaves of *Helietta
apiculata* showed the presence of furoquinolines. The extract was
investigated to determine if it can enhance the...

...i.p.) was associated with a statistically significant decrease of sleep
latency and prolongation of pentobarbital-induced sleeping time.
Pretreatment of rats with the same *alkaloid* extract (150 mg/kg, i.p. for
4 days) prior to administration of pentobarbital (40 mg/kg, i.p.) caused
not only significant reduction of...

DRUG DESCRIPTORS:

**cytochrome* *p450* *reductase*--endogenous compound--ec; *unspecific
monooxygenase--endogenous compound--ec; *medicinal plant--drug development
--dv; *medicinal plant--drug interaction--it; *medicinal plant
--pharmacology--pd; *hypnotic agent--drug...
...CAS REGISTRY NO.: 9075-42-7 (*cytochrome* *p450* *reductase*); 9012-80-0
...

2/3,K/7 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

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07093772 EMBASE No: 1997375636

**A promoter region that controls basal and elicitor-inducible expression
levels of the NADPH:*cytochrome* *P450* *reductase* gene (Cpr) from
Catharanthus roseus binds nuclear factor GT-1**

Lopes Cardoso M.I.; Meijer A.H.; Rueb S.; Queiroz Machado J.; Memelink J.
; Hoge J.H.C.

A.H. Meijer, Institute Molecular Plant Sciences, Leiden University,
Clusius Laboratory, PO Box 9505, 2300 RA Leiden Netherlands

AUTHOR EMAIL: MEIJER@RULBIM.LEIDENUNIV.NL

Molecular and General Genetics (MOL. GEN. GENET.) (Germany) 1997,
256/6 (674-681)

CODEN: MGGEA ISSN: 0026-8925

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 38

**A promoter region that controls basal and elicitor-inducible expression
levels of the NADPH:*cytochrome* *P450* *reductase* gene (Cpr) from
Catharanthus roseus binds nuclear factor GT-1**

NADPH:*cytochrome* *P450* *reductase* (CPR) is essential for the
activation of cytochrome P450 enzymes, which are involved in a wide variety
of metabolic pathways in plants, including those related...

DRUG DESCRIPTORS:

indole *alkaloid*--endogenous compound--ec; messenger rna--endogenous
compound--ec; terpenoid--endogenous compound--ec

2/3,K/8 (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

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06874374 EMBASE No: 1997158702

The two faces of pyrrolizidine alkaloids: The role of the tertiary amine and its n-oxide in chemical defense of insects with acquired plant alkaloids

Lindigkeit R.; Biller A.; Buch M.; Schiebel H.-M.; Boppre M.; Hartmann T.
T. Hartmann, IPBTU, Mendelssohnstrasse 1, D-38106 Braunschweig Germany
European Journal of Biochemistry (EUR. J. BIOCHEM.) (Germany) 1997,
245/3 (626-636)
CODEN: EJBCA ISSN: 0014-2956
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 55

...shows an almost complete loss of sup 1sup 80 label, indicating reduction of the orally fed N-oxide in the guts, uptake of the tertiary *alkaloid* and its reN-oxidation in the haemolymph. The enzyme responsible for N-oxidation is a soluble mixed function monooxygenase. It was isolated from the haemolymph...

...hydrophilic nontoxic N-oxide are discussed in respect to their bioactivation and detoxification in mammals and their role as defensive chemicals in specialized insects. Pyrrolizidine-*alkaloid*- sequestering insects store the alkaloids as nontoxic N-oxides which are reduced in the guts of any potential insectivore. The lipophilic tertiary *alkaloid* is absorbed passively and then bioactivated by cytochrome P-450 oxidase.

DRUG DESCRIPTORS:

*pyrrolizidine *alkaloid*

cytochrome *p450* *reductase*; oxygenase

...CAS REGISTRY NO.: 9075-42-7 (*cytochrome* *p450* *reductase*); 9037-29-0

...

2/3,K/9 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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04670506 JICST ACCESSION NUMBER: 00A0603727 FILE SEGMENT: JICST-E

Intestinal Cytochrome P450 and Response to Rifampicin in Rabbits.

NAKAMURA T (1); OKADA K (1); NAGATA K (1); YAMAZOE Y (1)

(1) Tohoku Univ., Sendai, Jpn

Jpn J Pharmacol, 2000, VOL.82,NO.3, PAGE.232-239, FIG.4, TBL.2, REF.32

JOURNAL NUMBER: G0813AAC ISSN NO: 0021-5198 CODEN: JJPAA

UNIVERSAL DECIMAL CLASSIFICATION: 615.45.033 615.33.015.1

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

...ABSTRACT: to assess the possibility of an experimental model for human intestinal oxidation of drugs. Significant amounts of P450 and cytochrome b5 and activities of NADPH-*cytochrome* *P450* *reductase* were detected in microsomes from rabbit duodenal, jejunal, ileac and colon mucosa. All the small intestinal fractions mediated phenytoin, dextromethorphan and testosterone oxidations. Several P450...

...DESCRIPTORS: morphinan *alkaloid*;

...BROADER DESCRIPTORS: *alkaloid*;

2/3,K/10 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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04110689 JICST ACCESSION NUMBER: 99A0323992 FILE SEGMENT: JICST-E

Examination on drug interaction of calcium antagonist nicardipine.

NAKAMURA KATSUNORI (1); ARIYOSHI NORITAKA (1); YOKOI TSUYOSHI (1); KAMATAKI

TETSUYA (1); IWATSUBO TAKASHI (2); FUKUNAGA YASUHISA (2); HIGUCHI

SABURO (2); SHIMADA NORIAKI (3)

(1) Hokkaido Univ., Grad. Sch.; (2) Yamanouchi Pharm. Co., Ltd.; (3)
Daiichi Pure Chem. Co., Ltd.
Rinsho Yakuri (Japanese Journal of Clinical Pharmacology and Therapeutics),
1999, VOL.30, NO.1, PAGE.85-86, FIG.1, TBL.1, REF.3
JOURNAL NUMBER: F0384BAT ISSN NO: 0388-1601
UNIVERSAL DECIMAL CLASSIFICATION: 615.2.015.2 615.45.033 615.225
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

...DESCRIPTORS: morphinan *alkaloid*;
...IDENTIFIERS: NADPH *cytochrome* *P450* *reductase*
...BROADER DESCRIPTORS: *alkaloid*;

2/3,K/11 (Item 1 from file: 315)
DIALOG(R) File 315: ChemEng & Biotech Abs
(c) 2001 DECHEMA. All rts. reserv.

463867 CEABA Accession No.: 30-08-013330 DOCUMENT TYPE: Patent
Title: *Cytochrome* *P450* *reductases* from poppy plants.
AUTHOR: Kutchan, T. M. ; Atkins, D. G. ; Fist, A. J.
CORPORATE SOURCE: Johnson & Johnson Res. Pty Ltd. Rushcutters Bay, NSW 2011
Australia
CODEN: PIXXD2
PATENT NUMBER: WO 9911765
PUBLICATION DATE: 11 Mar 1999 (19990311) LANGUAGE: English
PRIORITY PATENT APPLICATION(S) & DATE(S): AU 8872 (19970829)

Title: *Cytochrome* *P450* *reductases* from poppy plants.

...ABSTRACT: is disclosed for the production of alkaloids from poppy plants and in particular to a gene encoding the cytochrome P-450 reductase enzyme in the *alkaloid* pathway. Also disclosed are proteins encoded by the gene, plants transformed or transfected with the gene, and methods for altering the *alkaloid* content or blend of poppy plants. ...

DESCRIPTORS: English ; *alkaloid* ; cytochrome P-450 ; transgenic plant ; genetic manipulation ; plant breeding ; pharmaceutical production ; reducing enzymes

2/3,K/12 (Item 1 from file: 357)
DIALOG(R) File 357: Derwent Biotechnology Abs
(c) 2001 Derwent Publ Ltd. All rts. reserv.

0236841 DBA Accession No.: 99-06942 PATENT
Nucleic acid encoding *cytochrome*-*P450*-*reductase* from poppy - transgenic plant construction with increased yield of morphine, codeine, thebain or oripavine
AUTHOR: Kutchan T M; Zenk M H; Atkins D G; Fist A J
CORPORATE SOURCE: Rushcutters Bay, NSW, Australia.
PATENT ASSIGNEE: Johnson+Johnson 1999
PATENT NUMBER: WO 9911765 PATENT DATE: 990311 WPI ACCESSION NO.: 99-214703 (9918)
PRIORITY APPLIC. NO.: AU 978872 APPLIC. DATE: 970829
NATIONAL APPLIC. NO.: WO 98AU705 APPLIC. DATE: 980828
LANGUAGE: English

Nucleic acid encoding *cytochrome*-*P450*-*reductase* from poppy

ABSTRACT: Isolated, purified nucleic acid (I) encoding *cytochrome*-*P450*-*reductase* (II) from an *alkaloid* poppy is claimed. Also claimed are: eukaryotic or prokaryotic expression of (II) in at least 1 of the extracellular environment or intracellular membrane or cytoplasmic...

... expressing (I) or the constructs; cells, callus or transgenic plants produced by transfection or transformation with (I) or the constructs; a crop of stably reproducing *alkaloid* producing poppies transformed

or transfected with (I) of the constructs, their straw and straw concentrate; alkaloids (III) from the straw of the poppies; and production of (III) from the transgenic plants. The *alkaloid* is an analgesic. Transformation of the plants with (I) alters the yield and/or type of (III) produced, especially it increases the yield of (III)...

DESCRIPTORS: poppy transgenic plant construction, *cytochrome*-P450*-reductase* gene expression, DNA construct, DNA probe, DNA primer, sense, antisense DNA, vector, transformed cell, callus culture, pot. crop improvement, increased *alkaloid* e.g. morphine, codeine, oripavine, thebaine content cell culture medicinal plant gene transfer hybridization enzyme analgesic narcotic sedative arene cycloalkane het-N het-O ring...

2/3,K/13 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
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130206693 CA: 130(16)206693q PATENT
Cloning and heterologous expression of NADPH-cytochrome P 450 reductases from poppy plants
INVENTOR(AUTHOR): Kutchan, Toni Mary; Zenk, Meinhart Hans; Atkins, David George; Fist, Anthony John
LOCATION: Australia
ASSIGNEE: Johnson & Johnson Research Pty. Limited
PATENT: PCT International ; WO 9911765 A1 DATE: 19990311
APPLICATION: WO 98AU705 (19980828) *AU 978872 (19970829)
PAGES: 58 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-009/02A;
C12N-015/53B DESIGNATED COUNTRIES: AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GE; GH; GM; HR; HU; ID; IL; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; US; UZ; VN; YU; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH ; GM; KE; LS; MW; SD; SZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG
?